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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,180	11/11/2003	Daniel P. Vollmer	020569-03900 (P202-1284-U)	4645
71762	7590	12/14/2007	EXAMINER	
JONES & SMITH, LLP 2777 ALLEN PARKWAY SUITE 800 HOUSTON, TX 77019			FIGUEROA, JOHN J	
			ART UNIT	PAPER NUMBER
			1796	
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			12/14/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/705,180

Applicant(s)

VOLLMER, DANIEL P.

Examiner

John J. Figueroa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19,23,25-36,38-40,43-47,50-52 and 57-63 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19,23,25-36,38-40,43-47,50-52 and 57-63 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The nonstatutory obviousness-type double patenting rejection of claims 23, 25-36 and 38-40 over copending application 10/911,038 is maintained for reasons previously made of record in item 2 on page 2 of the Office Action mailed January 11, 2007 (hereinafter 'OA'). This rejection has been extended to include claim 19 in view of Applicant's amendment to said claim (now independent) in the response to OA filed September 17, 2007 (hereinafter 'Response').
2. The 35 U.S.C. 102(b) rejection as anticipated by USPN 6,479,573 B2 to Burdick (hereinafter Burdick) previously made of record in item 4 on page 3 of OA has been withdrawn in view of Applicant's cancellation of the rejected claims in the amendment in Response.
3. The 35 U.S.C. 103(a) rejections as unpatentable over USPN 6,239,081 to Korzilius et al. (hereinafter 'Korzilius') and over European Application Number 482 533 A2 to AQUALON (hereinafter 'AQUALON') that were previously made of record in items 6 and 7 on pages 5 and 6, respectively, have been withdrawn in view of the cancellation of the rejected claims in Applicants amendment in Response.
4. The 35 U.S.C. 103(a) rejection of claims 19, 23, 25-36 and 38-40 over Burdick in view of USPN 6,315,061 B1 to Boatman (hereinafter 'Boatman') has been maintained for reasons previously made of record in item 8 on page 8 of OA. This rejection has

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been extended to include new claims 43-47, 50-52 and 57-63 which recite limitations previously presented in pending and/or cancelled claims that were addressed in OA and/or in items 15 and 16 of the prior Office Action of May 3, 2006.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. New claims 43-47, 50-52 and 57-63 are rejected under 35 U.S.C. 103(a) as unpatentable over Burdick in view of Boatman.

Burdick and Boatman were discussed previously in prior Office Actions and the grounds of rejection are repeated herein for Applicant's convenience.

Burdick discloses an aqueous suspension, that can be used as a thickening an aqueous system such as an oil well drilling mud, said aqueous suspension comprising water, a salt(s) including a carbon-containing salt, xanthan gum as a stabilizer, a water-soluble polymer and/or a co-suspended thickening polymer, such as hydroxyethylcellulose (nonionic), hydrophobically-modified hydroxyethylcellulose and carboxymethylcellulose; wherein the most preferred carbon-containing salts are sodium formate and potassium formate. (Col. 3, lines 33-40; col. 4, lines 35-37 and 63-67; col. 5, lines 15-25 and 44-59; col. 14, lines 1-50; See e.g., Examples 2-3 disclosing a

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suspension containing hydroxyethylcellulose and xanthan gum in a sodium formate aqueous solution; Example 4 disclosing using the suspension of Example 3 as a thickening agent) The suspension can contain one carbon-containing salt or a mixture of salts that can include inorganic salts. (Col. 4, lines 19-48)

Burdick further discloses that the carbon-containing salt can be present in up to about 45% by weight of the *suspension*, the polymer(s) about 5 to 30% and water about 40 to 85%. Thus, the concentration of the salt(s) in *solution* can be as high as 55%. (Col. 4, lines 48-63; col. 13, lines 54-58)

Although Burdick does not specifically disclose the "true crystallization temperature (TCT), API 13 J" property for the aqueous suspension, because the aqueous suspensions disclosed by Burdick and encompassed by the instant claims are the same, then Burdick's aqueous suspension and that recited in the instant claims must inherently possess the same physical properties, such as TCT.

However, Burdick does not expressly disclose a method for thickening a brine during oil/gas recovery by introducing the suspension to a brine or using a mixture of sodium formate with potassium formate and/or cesium formate.

On the other hand, Boatman teaches a brine-based drilling fluid for oil and gas recovery operations stored in a ballast compartment of a work boat, wherein said drilling fluid does not contain undissolved solids and is designed to provide a biostatic environment and a density appropriate for the environment. (Abstract; col. 1, line 54 to col. 2, line 18)

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Boatman further teaches that the density of a drilling fluid is designed to maintain the hydrostatic pressure within the well bore to prevent shallow water flows and that the fluid density is dependent on the amount of dissolved solids present in the fluid, such as the amount of formate salts of sodium, potassium and cesium that is present in the fluid. (Col. 3, lines 46-54; col. 9, lines 40-50; col. 10, lines 39-42)

Furthermore, Boatman teaches that the density of the drilling fluid is adjusted by selecting an appropriate salt combination based on several factors, such as environmental considerations, the requisite minimum/maximum density, cost considerations and/or desired freezing point of the solution (particularly for off-shore drilling applications in colder waters). (Col. 3, lines 54-59)

In Examples 3-6, Boatman teaches viscosified drilling fluid brines of varying densities containing liquid hydroxyethylcellulose and xanthan gum as a stabilizer, in calcium chloride, calcium bromide, sodium formate and potassium formate brines respectively.

Accordingly, it would have been obvious to a person of ordinary skill in the art at the time that the invention was made to manipulate the alkali formate salt content (and, thus, the density) of Burdick's suspension and add it to a brine-based drilling fluid (such as Boatman's calcium chloride or calcium bromide drilling fluids) to thicken the drilling fluid. One of ordinary skill in the art would have been motivated to do so by the teachings in Boatman to attain an optimized density for the resultant brine-based drilling fluid that would be appropriate for a particular drilling operation condition, including

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under hazardous and extreme temperature/pressure conditions, and that is, furthermore, environmentally friendly.

Thus, the claims are unpatentable over Burdick and Boatman.

### ***Response to Arguments***

#### ***The Double Patenting Rejection (item 2 of OA)***

7. Applicant did not provide any substantive arguments in response to the double patenting rejection and it is thus maintained and further extended to additional claims as indicated above in paragraph #1 of the instant action.

#### ***The 102 Rejection over Burdick (item 4 of OA)***

8. Applicant's arguments filed in Response regarding the 35 U.S.C. 102 rejection over Burdick, have been considered but have become moot due to the withdrawal of this rejection in view of Applicant's cancellation of the rejected claims in Response.

#### ***The 103 Rejections over Korzilius and over AQUALON (items 6 and 7 of OA)***

9. Applicant's arguments in Response traversing the captioned 35 U.S.C. 103 obviousness rejections as unpatentable over Korzilius and over AQUALON have been considered but have become moot due to the withdrawal of these rejections in view of Applicant's cancellation of the rejected claims in Response.

The 103 Rejection over Burdick and Boatman (item 8 of OA)

10. Applicant's arguments in Response regarding the 35 U.S.C. 103 rejection of claims 19, 23, 25-36 and 38-40 as unpatentable over Burdick in view of Boatman have been fully considered but deemed unpersuasive.

In response to Applicant's arguments that Boatman, the secondary reference, "is not directed to *thickening* of a brine by use of a cellulosic polymer suspended in an aqueous formate salt" but instead "to adjust the *density* of a drilling fluid, not as a thickening agent" [Emphasis added by Examiner], one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). This 103 obviousness rejection of the claims is over the combination of Burdick and Boatman, not over Boatman individually.

Furthermore, it would have been obvious to one in the art, as discussed in item 8 of OA, to manipulate the alkali formate salt content of Burdick's suspension to, e.g., thicken the drilling fluid, as taught by Boatman. It is unclear as to why manipulating the density of the formate salt content of a drilling fluid (to e.g., increase its density) is patentably distinct from thickening the brine (formate salt solution) of a drilling fluid.

*Assuming arguendo* that increasing the density of a formate brine may be considered a distinct use from thickening a formate brine, because the process suggested by Burdick and Boatman is encompassed by the method recited in the instant claims, then the process suggested by the prior art should also be considered as



"thickening a brine" because the resultant method and brine in both processes provide a brine having a higher formate salt content density.

Therefore, the claims are unpatentable over Burdick in view of Boatman.

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

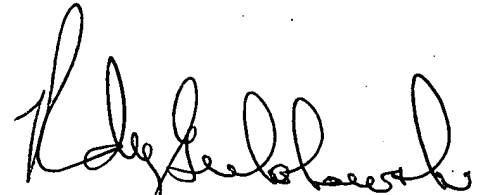
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Monday-Thursday 8:00-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJF/RAG

A handwritten signature in black ink, appearing to read 'Randy Gulakowski', is positioned above the printed name and title.

RANDY GULAKOWSKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700